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UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY

ASTRAZENECA AB, AKTIEBOLAGET HÄSSLE, ASTRAZENECA LP, KBI INC., and KBI-E INC.,

Plaintiffs and Counterclaim-Defendants,

v.

HANMI USA, INC., HANMI PHARMACEUTICAL CO., LTD., HANMI FINE CHEMICAL CO., LTD, and HANMI HOLDINGS CO., LTD.,

Defendants and Counterclaim-Plaintiffs.

Oral Argument Requested

Civil Action No. 3:11-CV-00760-JAP-TJB

Judge Joel A. Pisano
Magistrate Judge Tonianne J. Bongiovanni

PLAINTIFFS' RESPONSE IN OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT NO. 4: INVALIDITY OF U.S. PATENT NO. 5,714,504 CLAIMS 1-2, 4, 6 AND 7 - BASED ON "HYDRATES"

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I. INTRODUCTION

AstraZeneca's[1] U.S. Patent No. 5,714,504 in suit (the "'504 Patent"; Parezo Decl. Exh. B)[2] describes and claims pharmaceutical formulations comprising the pure solid state alkaline salts of esomeprazole[3] and methods for inhibiting gastric acid production and treating gastrointestinal inflammatory disease. The claimed inventions are based on the discovery that esomeprazole has certain improved properties, and provides certain biological benefits, as compared to omeprazole. For example, the inventors discovered that esomeprazole produces improved pharmacokinetic and metabolic properties, which will give an improved therapeutic profile, such as a lower degree of interindividual variation. (Parezo Decl. Exh. B, col.1 ll.50–53).

Hanmi has filed a motion for summary judgment of invalidity of claims 1, 2, 4, 6 and 7 of the '504 Patent. (D.I. 97–98) ("Motion 4"). Hanmi contends that the '504 Patent does not meet the written description and enablement requirements of Section 112 of the Patent Code as to "hydrates." Each argument advanced by Hanmi is flatly inconsistent with the facts and the law.

Hanmi's motion is based entirely on invalidity contentions that Hanmi never previously disclosed, either in its invalidity contentions or in its Paragraph IV notice. Hanmi's May 25, 2011 validity contentions did not disclose the arguments Hanmi now raises: that claims 1, 2, 4, 6 and 7 of the '504 Patent fail to meet the written description and enablement requirements as to "hydrates." Hanmi is improperly demanding that written description support be provided for a

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[1] "AstraZeneca" refers collectively to plaintiffs AstraZeneca AB; Aktiebolaget Hässle; AstraZeneca LP, KBI Inc.; and KBI-E Inc.

[2] Submitted herewith are the Declarations of Jessica L. Parezo ("Parezo Decl.") and Dr. Stephen G. Davies ("Davies Decl.").

[3] Esomeprazole is also known as the (–)-enantiomer of omeprazole, (–)-omeprazole, (S)-omeprazole, and the S-enantiomer of omeprazole.

form of salts *not recited in any of the claims*, a demand specifically based on a hydrate form that was *not even in existence* at the time of the claimed invention. Even if the Court considers Hanmi's summary judgment motion on the merits, it should be denied as a matter of law.

The '504 Patent provides written description support for the *claimed* pure solid state alkaline salts of esomeprazole *as of the filing date*. "Hydrates" is a term that is simply not recited in any of the asserted claims in this case. By imposing a written description requirement for hydrates, Hanmi contradicts fundamental patent law principles. The '504 Patent also enables one of ordinary skill in the art to make and use the *claimed* pure solid state alkaline salts of esomeprazole *as of the filing date*, without undue experimentation. Hanmi's attempt to focus the enablement inquiry on "hydrates" is in violation of the prohibition on importing limitations into the claims—the claims in the '504 Patent are not limited to "hydrates." For at least these reasons, summary judgment should be denied.

II. FACTUAL BACKGROUND

The effective filing date of the '504 Patent[4] is May 28, 1993. Claims 1, 2, 4, 6 and 7 as issued in the '504 Patent are drawn to "pharmaceutical formulation[s]" comprising "a pure solid state alkaline salt" of esomeprazole and methods of use thereof for "inhibiting gastric acid secretion" and "treatment of gastrointestinal inflammatory disease."

Hanmi argues that there is a lack of written description and enablement for a term not recited in any of the '504 Patent claims: "hydrates." (Defs.' Br. Summ. J. 1.) Hanmi's motion is based on a misapplication of the law on written description and enablement.

[4] All discussion herein of the '504 Patent disclosure applies equally to the disclosure of the original patent application from which the '504 Patent directly issued.

In addition, Professor Davies, an expert in organic chemistry, explains that Hanmi is incorrect in its factual allegations that the claimed invention does not satisfy the written description and enablement requirements. (Davies Decl. ¶¶ 155–86, 191–93; AZ SOF ¶¶ 153–84.) The facts set forth by AstraZeneca's expert establish that the '504 Patent satisfies the written description and enablement requirements with respect to the claimed pure solid state alkaline salts of (–)-omeprazole. (*Id.*) At the very least, Professor Davies' Declaration raises core material disputes of fact which preclude summary judgment. The Court should therefore deny Hanmi's motion.

Although not required to show that the '504 Patent satisfies the written description and enablement requirement for "hydrates," the facts set forth by AstraZeneca's expert shows that the inventors were in possession of pure solid state alkaline salts of esomeprazole in hydrated form, and would have been able to make and use such esomeprazole alkaline salts without undue experimentation.

III. LEGAL STANDARDS

The relevant legal standards for burden of proof, enablement and summary judgment are presented in AstraZeneca's Opposition to Hanmi's Motion 3. Legal principles of the written description requirement of Section 112 that are particularly relevant to the issues raised by Hanmi's Motion 4 are presented, below.

It is fundamental patent law doctrine that the written description requirement applies only to subject matter in the claims as of the filing date. "The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed*." *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed. Cir. 1991) (emphasis added). "[T]he so-called 'description requirement' of § 112, first paragraph . . . opens with the words: 'The specification shall contain a written

description of the invention. . . .' The invention is, necessarily, the subject matter *defined in the claim* under consideration." *In re Wright*, 866 F.2d 422, 424 (Fed. Cir. 1989) (emphasis added).

IV. HANMI'S MOTION 4 OF INVALIDITY SHOULD BE DENIED

Hanmi is plainly incorrect that the claims at issue fail the written description and enablement requirements both as a matter of law and fact, and its motion should therefore be denied. At a minimum, there are numerous disputed material facts that preclude summary judgment on these issues.

A. Hanmi's theory regarding written description for "hydrates" is irrelevant as a matter of law

In its motion, Hanmi argues that "there is no disclosure in the'504 Patent specification that describes any *hydrated form* of a esomeprazole salt, the production of hydrated salt forms, or the manner and process of making a hydrated form of the claimed alkaline salts of esomeprazole." (Defs.' Br. Summ. J. 2.) This premise, however, is entirely incorrect as a matter of law and thus has no relevance to the written description inquiry.

As established above, the '504 Patent provides written description support for the *claimed* pure solid state alkaline salts of esomeprazole *as of the filing date*. "Hydrates" is a term that is simply not recited in any of the asserted claims in this case. By imposing a written description requirement for hydrates, Hanmi contradicts fundamental patent law principles.

First, Hanmi is improperly importing a "hydrates" limitation into the claim language which case law prohibits. It is established law that limitations cannot be imported into claimed subject matter. *See Superguide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004); *Liebel-Flarsheim Co. v. Medrad Inc.*, 358 F.3d 898, 905 (Fed. Cir. 2004). None of the claims in the '504 Patent is limited to "hydrates," and thus Hanmi's inquiry focused only on this subset is improper. *In re Grimme*, 274 F.2d 949, 952 (CCPA 1960) ("It is manifestly

impracticable for an applicant who discloses a generic invention to give an example of every species falling within it, or even to name every such species. It is sufficient if the disclosure teaches those skilled in the art what the invention is and how to practice it.")

In a case affirmed by the Federal Circuit, the District Court of Delaware addressed improper attempts at importing a limitation into a patent's claims for a written description inquiry. *Phillips Petroleum Co. v. U.S. Steel Corp.*, 673 F. Supp. 1278, 1290–91 (D. Del. 1987), *aff'd* 865 F.2d 1247, 1290 (Fed. Cir. 1989). In *Phillips*, the defendants argued that there was no written description support for the high molecular weight polypropylene used in its products. *Id.* The defendants specifically argued that the intrinsic viscosity for polypropylene disclosed in the application was less than the intrinsic viscosity of its own product. *Id.* However, the claim at issue did not contain limitations regarding intrinsic viscosity or molecular weight. *Id.* at 1291. The Court, therefore, rejected the defendants' argument:

> Defendants have misconstrued the inquiry under section 112. The focus of that inquiry is whether the *claimed* subject matter is adequately described. If the '851 claim contained a limitation regarding intrinsic viscosity or molecular weight, Defendants' arguments would have merit. Yet, the '851 claim contains no such limitation. The fact that the 1953 application specified a range of intrinsic viscosities of only 0.2 to 1.0 is, therefore, immaterial to the present inquiry.

Id. (citations omitted). The Court further explained that its analysis applies to both written description and enablement, and therefore the defendants did not establish a lack of either Section 112 requirement:

> Thus, with respect to both the written description and enablement requirements, Defendants have misconstrued the inquiry under section 112. They have sought to read into the '851 claim a molecular weight/intrinsic viscosity limitation which simply is not there. . . . A patent applicant is not required, however, to predict every possible variation, improvement or commercial embodiment of his invention. In seeking to impose such a requirement on Phillips, Defendants have wholly failed to carry their burden in

> establishing the insufficiency of Phillips' 1953 application under section 112.

Id. at 1292 (citations omitted).

Second, Hanmi identifies the so-called "hydrate issue" based on "Hanmi's proposed product which is a tetrahydrate form." (Defs.' Br. Summ. J. 1.) Hanmi's product was not publicly known until 2007, which was after the 1993 date of the inventive subject matter claimed in the '504 Patent. (*See, e.g.*, Parezo Decl. Exh. E, U.S. Patent Appl. Pub. No. 2007/0093533 A1, assigned to Hanmi Pharm. Co., Ltd. (Apr. 26, 2007) (the "'533 publication"), ¶ 20 (describing an "S-omeprazole strontium salt [that] forms a crystalline tetrahydrate").) The '504 Patent provides written description support for the subject matter *claimed as of the 1993 filing date*. Hanmi's "hydrate issues" are therefore based on later-existing technology involving its specific tetrahydrate form. This premise is entirely incorrect as matter of law. The law prohibits relying on later-existing technology in attempts to reach back and invalidate a patent. A patent holder is not required to disclose later-existing forms of the invention that are not in existence as of the filing date. *See In re Hogan*, 559 F.2d 595, 605–07 (CCPA 1977). In *Hogan*, the patent application, filed in 1953, claimed a solid polymer, and the claims encompassed both crystalline and amorphous forms, even though the amorphous polymers did not exist until 1962. *Id.* at 605–06. The specification disclosed methods for making the crystalline form, but not the amorphous polymers that it later became possible to produce. *Id.* The Court stated that the patent application was not required to disclose the later-existing amorphous polymers:

> A later state of the art is that state coming into existence after the filing date of an application. This court has approved use of later publications as evidence of the state of art existing on the filing date of an application. That approval does not extend, however, to the use of a later . . . publication disclosing a later (1962) existing state of the art in testing an earlier (1953) application for compliance with s 112, first paragraph.

. . .

> Appellants disclosed, as the only then existing way to make such a polymer, a method of making the crystalline form. To now say that appellants should have disclosed in 1953 the amorphous form which on this record did not exist until 1962, would be to impose an impossible burden on inventors and thus on the patent system. There cannot, in an effective patent system, be such a burden placed on the right to broad claims. To restrict appellants to the crystalline form disclosed, under such circumstances, would be a poor way to stimulate invention, and particularly to encourage its early disclosure. To demand such restriction is merely to state a policy against broad protection for pioneer inventions, a policy both shortsighted and unsound from the standpoint of promoting progress in the useful arts, the constitutional purpose of the patent laws.

Id. at 605–06 (citations omitted).

Accordingly, the entire premise of Hanmi's arguments concerning the "'hydrates' issue" is incorrect as a matter of law because this issue is inapposite to a written description inquiry relating to claimed subject matter of the '504 Patent as of the filing date.

B. Hanmi's theory regarding written description for "hydrates" is incorrect as a matter of fact

The relevant inquiry is whether the specification of the application reasonably conveys possession of the subject matter claimed at the time of filing. Professor Davies explains that a person of ordinary skill in the art would have understood that the '504 Patent specification showed that the inventors were in possession of the claimed alkaline salts of esomeprazole at the time of filing. (Davies Decl. ¶ 155–56; AZ SOF ¶¶ 153–54.) In response to statements by Hanmi's Dr. Genck concerning a purported lack of support for "hydrates," Professor Davies explains that the claimed alkaline salts of esomeprazole, of which the inventors were in possession, included hydrated forms. (Davies Decl. ¶ 159–86; AZ SOF ¶¶ 155–80.)

The '504 Patent claims recite "pharmaceutical formulation[s]" comprising "a pure solid state alkaline salt" of esomeprazole and methods of use thereof. The specification of the '504

Patent sufficiently describes pure solid state alkaline salts of esomeprazole in fulfillment of the written description requirement, as explained by AstraZeneca's expert. (Davis Decl. ¶¶ 155–56; AZ SOF ¶¶ 153–54.)

The '504 Patent discloses throughout its specification pure solid state alkaline salts of enantiomers of omeprazole, including esomeprazole, and methods for their preparation. (Davies Decl. ¶ 155–56; AZ SOF ¶¶ 153–54.) For example, the '504 Patent describes throughout its specification that the inventive single enantiomer salts of omeprazole are alkaline salts. (*See, e.g.*, Parezo Decl. Exh. B, col.5 ll.7–11.) The '504 Patent further describes that the compounds are optically pure. (*See, e.g. Id.* '504 Patent, col.4 ll.15–38.) Furthermore, multiple examples set forth in the '504 Patent—Examples 2, 5, and 6—detail the preparation of pure alkaline salts of esomeprazole in solid state. (Davies Decl. ¶¶ 85–86, 96, 155–56; AZ SOF ¶¶ 114–19, 132, 153–54.)

Accordingly, Hanmi's arguments are incorrect, as person of ordinary skill would have clearly recognized that the inventors had possession of the claimed pure solid state alkaline salts of esomeprazole, as well as compositions thereof and methods of their use, as set forth in claims 1, 2, 4, 6, and 7. (Davies Decl. ¶¶ 155–56, 186; AZ SOF ¶¶ 153–54, 180.)

C. Hanmi does not produce clear and convincing evidence that the '504 Patent does not satisfy the written description requirement

Hanmi falls far short of carrying its burden of establishing, based on undisputed facts, that claims 1, 2, 4, 6 and 7 of the '504 Patent fail to satisfy the written description requirement. The claims of the '504 Patent are presumed to be supported by an adequate written description, and Hanmi would need to establish by clear and convincing evidence that they fail to meet this requirement. *Hynix Semicond'r Inc. v. Rambus Inc.*, 645 F.3d 1336, 1351 (Fed. Cir. 2011)

(citing *ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1376 (Fed. Cir. 2009)). Hanmi fails to do so.

Hanmi is not only moving for summary judgment on a factual issue, but it is doing so before any discovery—fact or expert—has taken place. Hanmi offers a declaration to argue that "the '504 Patent does not convey to a person of ordinary skill that applicants were in *possession* of *any* hydrated forms of the claimed salts either at the time of filing." (Defs.' Br. Summ. J. 7.) That, however, is not the relevant inquiry.

D. The '504 Patent satisfies the written description requirement

The '504 Patent sets forth written description support for the claimed pure solid state alkaline salts of esomeprazole, including hydrated forms, and pharmaceutical formulations and methods of treatment using these salts. (Davies Decl. ¶¶ 155–56, 186; AZ SOF ¶¶ 153–54, 180.) Hanmi only offers certain statements by Dr. Genck in support of its position. (Defs.' Br. Summ. J. 8–11.) Professor Davies, identifies the factual errors Dr. Genck makes in each of these statements. (Davies Decl. ¶¶ 158–85; AZ SOF ¶¶ 155–79.) For example, Professor Davies explains that Dr. Genck makes conclusory statements concerning a purported lack of hydrates in the Examples, without providing support for such statements. (Davies Decl. ¶¶ 163–64; AZ SOF ¶¶ 158–60.) Professor Davies also explains how Dr. Genck relies on flawed methodology in arriving at the conclusion that the '504 Patent "teaches away" from hydrated forms. (Davies Decl. ¶¶ 167–82; AZ SOF ¶¶ 162–74.)

A person of ordinary skill in the art would have understood that the '504 Patent specification showed that the inventors were in possession of pure solid state alkaline salts of esomeprazole in hydrated form. At a minimum, there is a genuine dispute of material fact that precludes summary judgment. Hanmi's Motion 4 should be denied with prejudice.

E. Statements made during prosecution of later-filed applications are not material to a written description inquiry

AstraZeneca did not argue or admit that the '504 Patent does not disclose any hydrated form. (Davies Decl. ¶ 184; AZ SOF ¶¶ 176–77.) Hanmi's allegations are incorrect. Hanmi relies on Dr. Genck in stating:

> That the hydrated forms of (-)-omeprazole salts are not described in the '504 patent is confirmed by statements by AstraZeneca to the Patent Office when it later obtained U.S. Patent No. 6,369,085 ("the '085 patent") which discloses and claims a trihydrate form of the magnesium salt of (-)-omeprazole. AstraZeneca yet again confirmed that the '504 patent has nothing to do with hydrates in the course of obtaining yet another later-filed patent again directed to a magnesium salt of (-)-omeprazole magnesium trihydrate, U.S. Patent No. 7,411,070 (the '070 patent).

(Defs.' Br. Summ. J. 11 (citing Defs.' SOF ¶¶ 40–64 & Genck Decl.[5] ¶¶ 89–100).) Professor Davies explains that Applicants did *not* argue that hydrates were not disclosed in the '504 Patent. (Davies Decl. ¶ 184; AZ SOF ¶¶ 176–77.) Instead, Applicants distinguished a particular hydrate (the trihydrate) from any other form of esomeprazole salts in the prior art. For example, in the file history of U.S. Patent No. 6,369,085, Applicants stated: "The claimed magnesium salt of [(-)]-omeprazole trihydrate is substantially free from magnesium salts of R-omeprazole and other prior art forms of [(-)]-omeprazole, e.g., S-omeprazole magnesium dihydrate." (Defs.' Rathinam Decl. Exh. 10, HAN0051846.)

Hanmi's arguments rely on a complete mischaracterization of the Applicants' statements made during prosecution of later-filed patent applications. Those statements are of no consequence to the written description inquiry.

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[5] References to "Genck Decl." herein refer to "Declaration of Wayne J. Genck, Ph.D." filed by Hanmi as D.I. 108 with Motion 4.

F. A person of ordinary skill in the art could make and use the claimed pure solid state alkaline salts

Enablement is generally a fact-dependent inquiry, and in this case there are numerous material facts in dispute. As Professor Davies states, the specification of the '504 Patent properly and adequately enables a person of ordinary skill in the art to make and use the inventions of claims 1, 2, 4, 6 and 7 of the '504 Patent. (Davies Decl. ¶ 191; AZ SOF ¶¶ 182–83.) Therefore, disputed issues of material facts preclude grant of Hanmi's motion for summary judgment of invalidity of these claims due to lack of enablement.

It bears repeating that Hanmi is not only moving for summary judgment on a factual issue, but it is doing so before any discovery—fact or expert—has taken place. Hanmi offers a declaration to argue that "[b]ecause 'hydrates' are not present, not defined and not described in the patent or the [application that issued as the '504 Patent], a person of skill in the art would not have been able to make hydrated forms of esomeprazole alkaline salts of the claims as of the filing date; thus, the asserted claims are invalid for lack of enablement under Section 112, first paragraph." (Defs.' Br. Summ. J. 18.)

That, however, is not the relevant inquiry. The correct inquiry is whether a person of skill in the art would have been able to make and use, without undue experimentation, the subject matter claimed at the time of filing. Professor Davies, explains that a person of ordinary skill in the art would have been able to make and use the claimed alkaline salts of esomeprazole at the time of filing without undue experimentation. (Davies Decl. ¶¶ 135–42, 191; AZ SOF ¶¶ 133–51, 182–83.) Moreover, in response to statements by Dr. Genck concerning a supposed lack of teaching for making "hydrates," Professor Davies explains that such alkaline salts of esomeprazole taught in in the '504 Patent included hydrated forms. (Davies Decl. ¶¶ 191–93; AZ SOF ¶¶ 182–85.)

Because all justifiable inferences are to be drawn in favor of the non-moving party, the Court must assume that the view of Professor Davies concerning the person of ordinary skill is correct.

a. The facts relevant to evaluation of the *Wands* factors are in dispute

Application of the *Wands* factors in an enablement analysis focuses on the claimed invention. *See Hormone Research Found'n, Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1567 ("To be enabling under § 112, a patent specification must disclose sufficient information to enable those skilled in the art to make and use the *claimed invention*.") (internal quotation marks omitted, emphasis added); *see also Chiron Corp. v. Genentech, Inc.*, 363 F.3d 1247, 1254 ("Because a patent specification must enable the full scope of a *claimed invention*, an enablement inquiry typically begins with a construction of the claims.") (quotations omitted, emphasis added); *Phillips*, 673 F. Supp. 1291–92 ("As the Federal Circuit has explained, it is the *claimed invention* for which enablement is required.") (emphasis added).

Professor Davies explains that the *Wands* factors show that a person of ordinary skill in the art as of the 1993 filing date would have been able to make and use the claimed pure solid state alkaline salts of esomeprazole without undue experimentation. (Davies Decl. ¶¶ 135–42, 191; AZ SOF ¶¶ 133–51, 182–83.) Accordingly, the facts establish that the '504 Patent specification enable the skilled person to make and use claims 1, 2, 4, 5 and 7 of the '504 Patent.

b. The breadth of the claims is in dispute

The scope of claims 1, 2, 4, 6 and 7 is disputed. The teachings of the '504 Patent specification direct one of ordinary skill in the art how to make and use pure solid state alkaline salts of esomeprazole, which correlates with the claimed subject matter. (Davis Decl. ¶¶ 191–92; AZ SOF ¶¶ 182–83.) Hanmi's premise that there is a "hydrates issue" is not relevant to an enablement inquiry, because the scope of the '504 Patent claims is not limited to hydrates and

the so-called "hydrates issue" is based on technology not in existence as of the filing date of the '504 Patent claims. As explained below, Hanmi's premise is wholly incorrect as a matter of law.

c. The amount of direction and guidance is in dispute

Professor Davies explains that the '504 Patent provides one of ordinary skill with full direction and guidance on how to make and use the claimed pure solid state alkaline salts of esomeprazole. (Davies Decl. ¶¶ 137–38, 191; AZ SOF ¶¶ 135–39, 182–83.) For example, the '504 Patent discloses methods for preparing pure solid state alkaline salts of enantiomers of omeprazole, including esomeprazole. (Davies Decl. ¶¶ 137–38, 156; AZ SOF ¶¶ 135–39, 154.) Furthermore, the '504 Patent provides full direction and guidance on how to prepare and identify solid state alkaline salts of esomeprazole. (*See, e.g.*, Parezo Decl. Exh. B, col.3 ll.40–41; col.4 ll.58–61; Davies Decl. ¶¶ 137–38; AZ SOF ¶¶ 135–39.)

By way of further example, the '504 Patent teaches how the preparation of the alkaline salts of esomeprazole in the '504 patent involves treatment of a neutral enantiomer of omeprazole with a base. (*See* Parezo Decl. Exh. B, col.4 ll.51–61; col.4 l.65–col.5 l.4; Davies Decl. ¶ 138; AZ SOF ¶¶ 138–39.)

d. The presence of working examples is in dispute

Professor Davies explains that the '504 Patent includes working examples that provide detailed procedures for making and use solid state alkaline salts of esomeprazole. (Davies Decl. ¶¶ 156, 191, 193; AZ SOF ¶¶ 154, 182–83.)

Multiple examples set forth in the '504 Patent—Examples 2, 5 and 6—detail the preparation of pure solid state alkaline salts of esomeprazole. (Davies Decl. ¶¶ 85–86, 155–56; AZ SOF ¶¶ 114–19, 153–54.) For example, Example 2 describes how to prepare a solid state sodium salt of esomeprazole, and Examples 5 and 6 describe how to prepare solid state magnesium salts of esomeprazole. (Parezo Decl. Exh. B, col.6 l.59–col. 7 l.11; col.7 l.50–col.8

l.52; Davies Decl. ¶ 139; AZ SOF ¶¶ 140–44.) By way of further example, Examples 1–3, 6 and 7 provide detailed and specific applications of the procedure for preparing alkaline salts of omeprazole under basic conditions. (Davies Decl. ¶ 140; AZ SOF ¶¶ 145–46.) Once formed, the salts may be converted to other salts. (Davies Decl. ¶ 141; AZ SOF ¶¶ 147–50.)

e. The quantity of experimentation is in dispute

Professor Davies explains that one of ordinary skill in the art, in 1993, would have required at most routine experimentation, in light of the significant amount of direction and guidance, including working examples, provided by the '504 Patent, to obtain pure solid state alkaline salts of esomeprazole. (Davies Decl. ¶ 191; AZ SOF ¶¶ 182–83.)

f. The predictability of the art is in dispute

The predictability or unpredictability of which hydrate may or may not form is not relevant to this analysis. Dr. Genck states that "[b]ecause there is no description of hydrates or ways of making or using them in the '504 Patent, a person of skill in the art would not understand hydrated forms to have been part of the subject matter of the '504 Patent based on their inherent unpredictability." (Genck Decl. ¶ 84.) The preparations of alkaline salts described throughout the Examples do, in fact, teach a person of ordinary skill in the art how to make and use solid states alkaline salts of esomeprazole. (Davies Decl. ¶¶ 160–64, 190; AZ SOF ¶¶ 156–60.)

g. Professor Davies establishes that the *Wands* factors, when considered together, demonstrate no more than routine experimentation required to make and use the claimed invention

Professor Davies has considered the factors concerning whether the amount of experimentation is "undue" and concludes that one of ordinary skill in the art would have understood, based on the '504 Patent specification, how to make and use the claimed pure solid state alkaline salts of esomeprazole without undue experimentation. (Davies Decl. ¶ 191; AZ

SOF ¶¶ 182–83.) Accordingly, the pure solid state alkaline salts esomeprazole, as well as compositions thereof and methods of their use, recited in claims 1, 2, 4, 6 and 7 are enabled, or there is at least a dispute of material fact that precludes summary judgment.

G. Hanmi's theory that "hydrates" are not enabled is irrelevant as a matter of law

Hanmi argues that "there is no disclosure in the'504 Patent specification that describes any hydrate form of a esomeprazole salt, the production of hydrated salt forms, or the manner and process of making a hydrated form of the claimed alkaline salts of esomeprazole." (Defs.' Br. Summ. J. 2.) This premise, however, is entirely incorrect, as a matter of law, and thus, has no relevance to the enablement inquiry.

The '504 Patent enables one of ordinary skill in the art to make and use the *claimed* pure solid state alkaline salts of esomeprazole *as of the filing date*, without undue experimentation. Hanmi's attempt to focus the enablement inquiry on "hydrates" is in violation of the prohibition on importing limitations into the claims—the claims in the '504 Patent are not limited to "hydrates." *See Superguide*, 358 F.3d at 875; *Liebel-Flarsheim*, 358 F.3d at 906; *E-Pass.*, 343 F.3d at 1369 (Fed. Cir. 2003); *In re Bundy*, 642 F.2d at 432–34. The District Court of Delaware in *Phillips* explained that nonenablement defenses focused exclusively on aspects of the invention to which the claims are not limited must fail:

> Defendants have again missed the point of the inquiry under section 112. As the Federal Circuit has explained, it is the claimed invention for which enablement is required. *The applicant is not required to include in his application support for matters not set forth in the claim.* As explained *supra*, there is no limitation in the '851 claim regarding intrinsic viscosity or molecular weight. Even assuming *arguendo* that the 1953 application did not enable one skilled in the art to produce polypropylene having an intrinsic viscosity greater than 1.0, Phillips' disclosure would not be rendered non-enabling.

Id. at 1292 (citations omitted and emphasis added).

The ’504 Patent provides an enabling disclosure for the subject matter *claimed as of the 1993 filing date*. A patent holder is not required to enable technology that was not in existence as of the filing date. *See Hogan*, 559 F.2d at 605–07. If an “application provide[s] sufficient enablement, considering all available evidence (whenever that evidence became available) of the [filing date’s] state of the art, *i.e.*, of the condition of knowledge about all art-related facts existing [as of the filing date], then the fact of that enablement [is] established for all time and a later change in the state of the art cannot change it.” *Id.* at 605. As discussed above, in *Hogan*, the patent application, filed in 1953, claimed a solid polymer, and the claims encompassed both crystalline and amorphous forms, even though the amorphous polymers did not exist until 1962. *Id.* at 605–06. The specification disclosed methods for making the crystalline form, but not the amorphous polymers that it later became possible to produce. *Id.* The Court ruled that this did not merit rejection of the patent under Section 112:

> The PTO has not challenged appellants’ assertion that their 1953 application enabled those skilled in the art in 1953 to make and use “a solid polymer” as described in claim 13. Appellants disclosed, as the only then existing way to make such a polymer, a method of making the crystalline form. To now say that appellants should have disclosed in 1953 the amorphous form which on this record did not exist until 1962, would be to impose an impossible burden on inventors and thus on the patent system.

Id. at 606.

Accordingly, the entire premise of Hanmi’s arguments concerning the “‘hydrates’ issue” is completely incorrect as a matter of law because this issue is inapposite to an enablement inquiry relating to claimed subject matter of the ’504 Patent as of the filing date.

H. Hanmi’s theory that “hydrates” are not enabled is incorrect as a matter of fact

Hanmi’s theory that hydrates are not enabled is incorrect as a matter of fact. Professor Davies explains how Dr. Genck is incorrect that hydrated forms of esomeprazole alkaline salts

are not disclosed. (Davies Decl. ¶¶ 159–82; AZ SOF ¶¶ 155–75.) Notably, Professor Davies explains that the method of preparing alkaline salts used in the '504 Patent—treatment of neutral esomeprazole with a base—is the same method used by Hanmi to prepare its strontium tetrahydrate salt in Hanmi's own later-filed patent (Davies Decl. ¶ 193 (discussing U.S. Patent No. 7,576,219, assigned to Hanmi Pharm. Co., Ltd.); AZ SOF ¶¶ 184–85.) Case law establishes that post-filing date evidence can demonstrate enablement as of the filing date. *Johns Hopkins Univ. v. CellPro, Inc.*, 152 F.3d 1342, 1359–61 (Fed. Cir. 1998) (holding that claims to antibodies were enabled after considering post-filing date evidence showing use of methods in patent to produce antibodies, *including challenger's own antibody*); *see also Amgen*, 314 F.3d at 1336 ("The district court found that a skilled artisan could readily have used various cultured vertebrate and mammalian cells to produce human EPO, *and this fact was buttressed by numerous post-filing publications that demonstrated the extent of the enabling disclosure*.") (emphasis added); *Gould v. Quigg*, 822 F.2d 1074, (Fed. Cir. 1987) (holding that it was not legal error for the district court to accept the testimony of an expert who had considered a later publication "*offered . . . as evidence that the disclosed device would have been operative*") (emphasis added).

Accordingly, Hanmi has not satisfied its burden of providing clear and convincing evidence that undue experimentation would have been necessary to prepare the claimed alkaline salts of esomeprazole. As established by Professor Davies, one of ordinary skill in the art would have been able to make and use the claimed esomeprazole alkaline salts in hydrated form, without undue experimentation. (Davies Decl. ¶ 191; AZ SOF ¶¶ 182–83).

V. HANMI RELIES ON NEW INVALIDITY ARGUMENTS

Hanmi's motion is based entirely on invalidity contentions that Hanmi never previously disclosed, either in its invalidity contentions or in its Paragraph IV notice. Local Patent Rule 3.6(c) requires that a party disclose in its invalidity contentions "[a]ny grounds of invalidity based on . . . enablement or written description under 35 U.S.C. § 112(1) of any of the asserted claims," L. Pat. R. 3.3(d). Hanmi served its invalidity contentions on May 25, 2011 pursuant to the Court's scheduling order. Those contentions did not disclose the arguments Hanmi now raises: that claims 1, 2, 4, 6 and 7 of the '504 Patent fail to meet the written description and enablement requirements as to "hydrates." Hanmi has not sought leave to amend its invalidity contentions to add these new contentions, nor has Hanmi demonstrated the good cause necessary for such an amendment.

In its invalidity contentions, Hanmi asserted that certain claims of the '504 Patent were invalid for failure to meet the written description for two reasons, but neither assertion concerned a supposed lack of support for "hydrates." (*See* Parezo Decl. Exh. H.) Rather, the two written description contentions raised different theories: (1) "No Alkaline Salts Other Than Six Species;" and (2) "No Written Description of a 'pure solid state' alkaline salt." (*Id.* at 71; 73.)

Hanmi did state that the claims are invalid "[t]o the extent AstraZeneca asserts that any of claims 1, 2, 4, 6 and 7 encompass and read on Hanmi's proposed products containing a crystalline strontium salt of esomeprazole, in tetrahydrate form . . . ." (Parezo Decl. Exh. H at 73.) However, besides this brief mention that Hanmi's product is "in tetrahydrate form," Hanmi does not even address hydrates, much less advance any of the hydrate lack of written description grounds advanced in this motion. Furthermore, while Hanmi did allege in its lack of enablement contentions that two examples in the '504 Patent did not state that hydrates were formed, that

allegation does not put AstraZeneca on notice that Hanmi would assert a defense based on a supposed lack of written description. As the Court has stated in this case, "[n]onenablement is a completely different defense than . . . lack of written description." Mem. Op. of Nov. 14, 2011, at 10, D.I. 138. Based on the enablement challenge raised in Hanmi's invalidity contentions, "there was no reason for AstraZeneca to believe that because Hanmi was challenging certain claims of the '504 Patent based on nonenablement, they were also challenging certain claims for . . . lack of written description." (*Id.*) Hanmi's invalidity contentions did not put AstraZeneca on notice of an enablement challenge with respect to "hydrates" by disclosing a challenge based on failure to satisfy a written description requirement.

Likewise, Hanmi failed to disclose any contention that the claims were invalid for failure to meet the enablement requirement based on "hydrates." (*See* Parezo Decl. Exh. H.) Instead, the three enablement contentions raised different theories: (1) "If They are Asserted or Construed to Encompass Hanmi's Crystalline Esomeprazole Strontium Tetrahydrate;" (2) "With Respect to a 'pure solid state' alkaline salt;" and (3) "Lack of Disclosed Utility." (Defs.' Invalidity Contentions, at 67; 74; 76.)

Hanmi asserted under its first theory that the claims are not enabled if "the Court or AstraZeneca were to interpret claims 1–2, 4 or 6–7 to encompass Hanmi's proposed crystalline esomeprazole strontium tetrahydrate." (Parezo Decl. Exh. H at 67.) This broad, conclusory assertion that if Hanmi's product infringes the claims they must be invalid for lack of enablement, does not fairly disclose or even suggest the enablement theory Hanmi now advances. Hanmi never reasonably suggested in its invalidity contentions how a term not in any of the asserted claims could possibly serve as a basis for a challenge based on lack of enablement. Its enablement theory on "hydrates" in the instant motion is based on factors

("*Wands* factors") that were not mentioned in its lack of enablement invalidity contentions. (Defs.' Br. Summ. J. 19–20 (citing *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988).) Hanmi alleged there that two examples in the '504 Patent did not state that hydrates were formed in their description of preparing (–)-omeprazole alkaline salts. (Parezo Decl. Exh. H at 68.) However, this allegation does not disclose that Hanmi contended the claims lacked enablement for a term ("hydrates") that does not even appear in the claim. Further, this allegation addressed only two of the '504 Patent's thirteen Examples, and could not fairly put AstraZeneca on notice of Hanmi's current argument that there is a supposed lack of *any* working examples relating to "hydrates" in the '504 Patent. (Defs.' Br. Summ. J. 20.) Hanmi asserted a *Wands* factor of a supposed "lack of guidance as to how to obtain a crystalline tetrahydrate form of a strontium salt." (Parezo Decl. Exh. H at 69 (citing *Wands*, 858 F.2d at 737).) Yet, nowhere did the contentions address the purported "lack of disclosure of hydrates" in general, as Hanmi now argues (Defs.' Br. Summ. J. 20). In addition, when Hanmi addressed the *Wands* factor of unpredictability in its theory on lack of enablement, its argument was based on "the unpredictability of crystalline salt formation." (Parezo Decl. Exh. H at 69.) Hanmi did not even mention hydrates in its assessment of "unpredictability." However, Hanmi now identifies "the unpredictability of forming a hydrate (even when water is used as a solvent) both in 1995 and today" as a *Wands* factor on which its enablement theory is based. (Defs.' Br. Summ. J. 20.) Based on Hanmi's invalidity contentions, AstraZeneca was not given notice of this lack of enablement theory with respect to "hydrates."

If Hanmi wanted to add the new invalidity contentions, Hanmi should have sought leave and in the course of doing so would have been required to demonstrate good cause why it could not have presented these grounds in its May 25, 2011 Invalidity Contentions. L. Pat. R. 3.7.

Hanmi has not sought leave and certainly has not demonstrated good cause. Hanmi should not be permitted to circumvent the Local Patent Rules by raising new invalidity contentions for the first time in a summary judgment motion. Because Hanmi's motion for summary judgment is based on invalidity contentions not previously disclosed to Plaintiffs, it should be denied.

VI. CONCLUSION

For the foregoing reasons, AstraZeneca respectfully requests that the Court deny Hanmi's summary judgment Motion 4.

Respectfully submitted,

Dated: December 2, 2011

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CERTIFICATE OF SERVICE

I hereby certify that on December 2, 2011, I caused a copy of the foregoing ASTRAZENECA'S BRIEF IN OPPOSITION TO HANMI'S MOTION FOR SUMMARY JUDGMENT NO. 4: SUMMARY JUDGMENT OF INVALIDITY OF U.S. PATENT NO. 5,714,504 CLAIMS 1-2, 4, 6 AND 7 BASED ON "HYDRATES" and supporting documents to be served upon the following counsel by operation of the Court's electronic filing system and/or electronic mail:

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